



## Health Reform Monitor

Testing the 2017 PHC reform through pilots: Strengthening prevention and chronic care coordination<sup>☆</sup>Katarzyna Badora-Musiał<sup>a,\*</sup>, Anna Sagan<sup>a,b</sup>, Alicja Domagała<sup>a</sup>, Iwona Kowalska-Bobko<sup>a</sup><sup>a</sup> Jagiellonian University Medical College, Faculty of Health Science, Institute of Public Health, Poland<sup>b</sup> European Observatory on Health Systems and Policies, London School of Economics, London School of Hygiene and Tropical Medicine, United Kingdom

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## ABSTRACT

Numerous official reports have highlighted insufficient provision of preventive services within primary health care (PHC) in Poland. Other identified weaknesses include inappropriate referrals to ambulatory care that contribute to long waiting times for specialist consultations. Since mid-2018, a new model of PHC organization has been piloted and can be seen as an attempt to address some of these weaknesses. It draws on the Primary Health Care Act of 2017 and puts much more emphasis on disease prevention and health promotion within PHC as well as shifts management of common chronic conditions to multidisciplinary PHC teams. The implementation of this model has been supported by a range of financial and non-financial measures, including a special grant that helps PHC practices to adapt their IT systems to the requirements of the pilot. Yet, the overall requirements were prohibitive to most PHC practices and only 42 were eventually included in the pilot. In this paper, we describe the content of this model, the difficulties in its implementation and how they were addressed and discuss its possible effects on PHC and the health system more broadly.

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## 1. Introduction and reform background

Poland, like many other former eastern bloc countries, inherited a poorly arranged primary health care (PHC) system, with dominance of narrow specialties and with PHC not being held in high regard among medical students and practitioners as well as patients [1]. The concept of family medicine did not exist until the early 1990s and PHC physicians were mainly specialists in internal medicine, obstetrics-gynaecology or paediatrics. They provided care in polyclinics and often lacked diagnostic equipment. Patients were thus frequently referred on to specialists for conditions which in western Europe were normally treated within PHC.

Since the collapse of the communist regime, alongside many other central and eastern European countries, Poland has made efforts to improve the role and quality of PHC [2]. The scope of competencies of family doctors were drawn in 1991 [3] and became the basis for developing dedicated training programmes. The first professional organization for family doctors – the College of Family Physicians – was established and specialization in family medicine

was introduced in 1994 [4–6]. In the same year, the government presented the ‘Strategy for the development of primary health care’, strongly promoting a widespread introduction of the family physician model [7,8]. This model was organized around individual or group physician practices and remains in place today [9,10].

With privatization of PHC practices since the early 1990s, the standard of PHC care has improved and practices have become better equipped [9]. The 1997 Act on Universal Health Insurance, which allowed physicians to contract directly with the sickness funds (and later with the National Health Fund (NHF)), incentivized physicians to improve the range and quality of provided services. The NHF’s demands towards PHC physicians have progressively increased, leading to the formation of a federation of PHC employers (Zielonogórskie Agreement) to represent PHC physicians in the negotiations with the fund [11]. The scope of PHC services was specified in the 2005 Executive Regulation of the Minister of Health and includes a range of preventive services, such as indication and diagnosis of health risk, health education, advice on healthy lifestyles, education in hygienic nursing of neonates, education in prevention of gynaecological diseases. National preventive programmes are also implemented within PHC, including prevention of cardiovascular diseases, prophylaxis of tuberculosis, prevention of cervical cancer, prevention of tobacco-related diseases [10].

Yet, analysis work conducted by the Polish Supreme Audit Office (NIK) has repeatedly pointed to continued weakness of PHC, in par-

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ticular to the insufficient provision of preventive services within PHC and highlighted little improvement in this area over the years [12–16]. Other identified sources of PHC weakness include shortages of family medicine specialists and PHC doctors in general (physician density is low compared to other countries in Europe – 2.4 per 1000 people compared to 3.6 in the EU and only about 9 % of all physicians work as general practitioners in Poland compared to 23 % in the EU [10];), shortages of nurses and midwives, and limited use of modern IT tools [10]. Further, since the capitation fee is expected to cover also the cost of diagnostics, PHC physicians sometimes limit the number of provided diagnostic services. This is regarded as another key weakness as it can lead to inappropriate referrals to (more costly) ambulatory care, contributing to long waiting times for specialist consultations [17].

In 2015, a dedicated pathway for cancer patients (the so-called ‘oncology package’) and a set of measures to reduce waiting times (‘waiting times package’) were introduced. These two packages contained a number of financial and other measures aimed at strengthening PHC and shifting patients from specialist to primary care, including: introduction of a ‘prescription visit’ so that patients who previously had to see a specialist to get a new prescription could get it from the PHC physician; introduction of PHC gate-keeping to ophthalmologists and dermatologists, who previously could be accessed directly; extension of the list of diagnostic tests that can be provided within PHC; granting nurses the authority to prescribe certain medicines and diagnostic procedures, issue referrals to specific diagnostic tests and providing them with additional remuneration for performing prophylactic services [18]. At the same time, financial rewards were introduced for specialists who are quick to diagnose, treat and transfer the patient back to PHC and financial incentives to encourage day surgery and shorter hospitalization times [19].

The oncology and waiting times packages have been followed by the introduction of other coordinated care programmes, which were part of broader efforts to reduce waiting times [19,20]. Also, as part of these efforts, in October 2015 the Ministry of Health and the NHF agreed to test various models of care coordination within PHC. Three models were developed in collaboration with the World Bank, focusing on different PHC services and populations [21–23]: Model 1 involves extending the scope of PHC services to include selected ambulatory specialist care services in order to improve coordination of care at the PHC level and to significantly strengthen provision of preventive services; Model 2 focuses on improving integration between outpatient and inpatient care; and Model 3 focuses on improving coordination of care for people after hospitalization and older people aged 65 + . It was decided that Model 1 will be implemented first and the other models remain so far at the conceptual stage. The model, called PHC PLUS, was implemented through a pilot co-financed from the EU funds, in cooperation with the NHF and the World Bank under the Operational Programme Knowledge Education Development 2014–2020.

The Act on Primary Health Care adopted in October 2017, which came into force on the 1<sup>st</sup> of December 2017, provides a legal framework for testing solutions such as those proposed under the PHC PLUS model. It sets out broad goals and organization of PHC. According to this Act, PHC teams consisting of a PHC doctor, nurse and midwife are responsible for delivering PHC services to persons who chose them as their PHC providers. These teams are also responsible for coordinating patient’s care within the health system, including prophylaxis, health promotion and education as well as diagnostics and specialist consultations. The Act encourages the use of electronic and ICT solutions to support coordination within PHC and between PHC and other providers and allows for new modes of financing to be introduced to complement capitation payments and support the achievement of the proposed goals, including lump sum budgets for ensuring coordination of care and

incentive payments linked to health outcomes and quality of care [24,25].

The PHC PLUS model tests certain new solutions that are meant to achieve the goals set out in the Primary Care Act of 2017. In this paper, we describe the content of this model, its implementation and discuss its possible effects on PHC and the health system more broadly.

## 2. Policy content

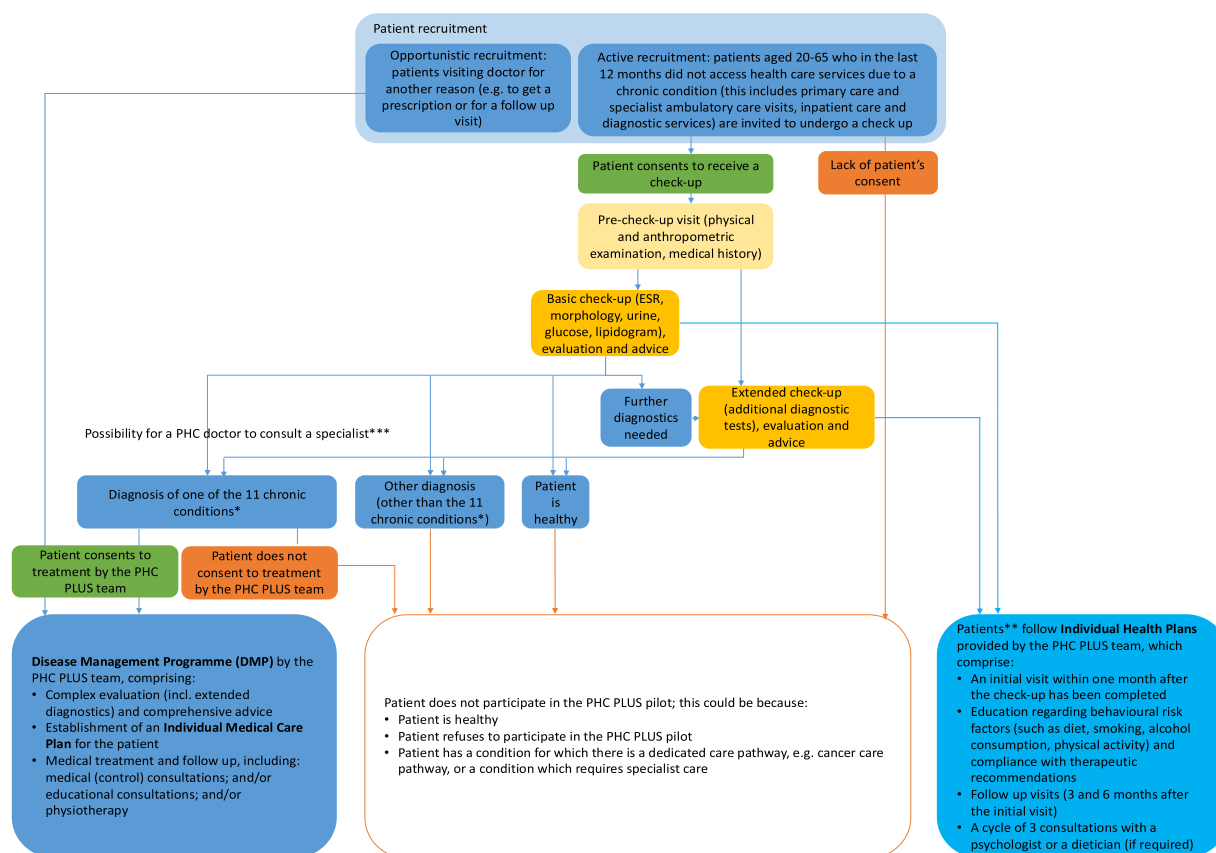
The new model of PHC organization was developed with involvement of many stakeholders, including the Ministry of Health and the NHF, taking into account current levels of service utilization and provider capacity [26], and was broadly supported by PHC physicians, especially those working in larger PHC entities, and by patients. It was decided that the model will be piloted in PHC practices across the country before being rolled out nationwide.

Within this model, PHC is provided by a PHC team consisting of a doctor and a nurse, and also including health educators, dieticians and physiotherapists [27]. These new PHC teams are responsible for coordinating patients’ care pathways, including coordinating post-hospital treatment and rehabilitation. In addition, entities participating in the pilot are required to employ special coordinators, who support the patient and the PHC team by ensuring good information flow between the patient and the PHC team as well as between the PHC team and any other providers involved in the care process. Their tasks include assisting patients in setting up an individual account in a dedicated patient portal, managing an electronic calendar and sending reminders (via text messages or emails) about upcoming visits [28]. This role can be fulfilled by a member of the PHC team, e.g. a nurse, or by a specially trained staff.

An important element of the new model are periodic health check-ups to which qualifying patients, recruited actively or opportunistically (Fig. 1), will be invited every five years [29]. The purpose of these health check-ups is to stratify the population into those with no identified disease risk factors and those with a suspected or diagnosed chronic condition. Patients consenting to a check-up first attend a pre-check-up visit, usually conducted by a nurse, where basic examinations are conducted, and medical history is taken. To that end, the pilot introduced a dedicated nursing consultation, giving nurses a greater role in the care process. Based on this initial check-up, patients are directed to either a basic check-up, or, if a chronic condition is suspected, to an extended check-up. PHC doctors will be able to order extensive diagnostic and laboratory tests and, if needed, consult (incl. via teleconsultation) with a range of cooperating specialists. Their competencies have thus also increased. This was meant to improve access to diagnostic tests within PHC, improve access to specialist care to patients in the rural areas, where access to specialists is generally more difficult, and reduce unnecessary referrals [30].

Patient education on identified risk factors constitutes an integral part of the check-up visits [21]. Age and gender specific prevention and educational packages have been developed to that end. Qualifying patients will be offered Individual Health Plans, which are largely led by the nurses and focus on educating patients about behavioural risk factors but may also include psychological and dietary support.

The scope of PHC services will be extended to include disease management programmes (DMPs) for 11 most prevalent non-communicable conditions in Poland (see Fig. 1), which affect about 30 % of outpatients [31]. Consenting patients will follow Individual Medical Care Plans that are tailored to their health condition(s) and are established jointly by the PHC team and the patient. Patient education will constitute an integral part of DMPs.



**Fig. 1.** Patient pathways in the PHC PLUS pilot.

Note: \*1. Type II diabetes, 2. spontaneous hypertension, 3. chronic coronary heart disease, 4. chronic heart failure, 5. persistent atrial fibrillation, 6. bronchial asthma, 7. COPD, 8. hypothyroidism, 9. parenchymal or nodular, 10. osteoarthritis of the peripheral joints, and 11. spinal pain syndromes

\*\* All patients can qualify, except for those who are healthy; those who do not wish to participate; those covered by a DMP or by a dedicated care pathway, such as the cancer care pathway.

\*\*\* Specialists in the area of diabetes, endocrinology, cardiology, neurology, pulmonology, rehabilitation and physiotherapy.

ESR = erythrocyte sedimentation rate

Source: Authors based on [29].

## 2.1. Policy implementation

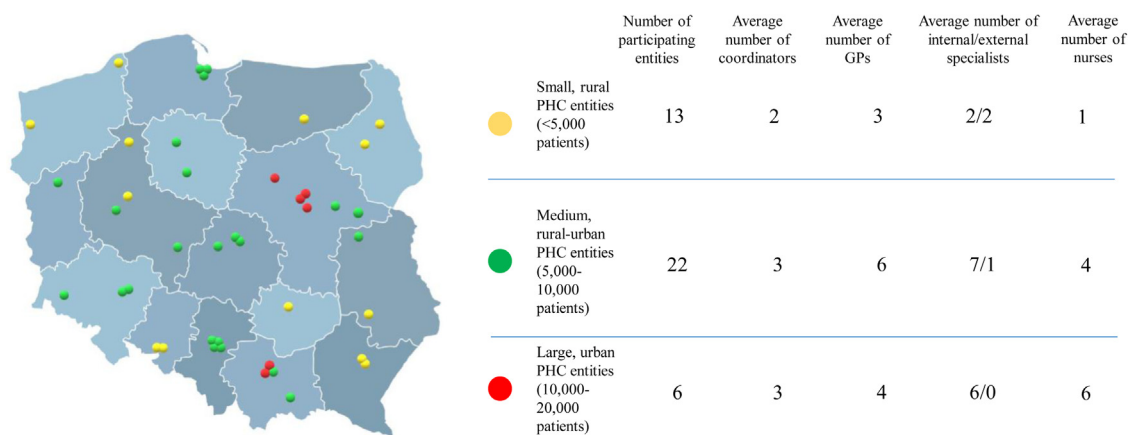
Implementation of the PHC PLUS pilot started on July 1, 2018 and was initially planned to last until December 31, 2019 but this deadline was later extended until mid-2021 [28]. Initially, 874 PHC entities from among around 6000 PHC units contracted by the NHF declared their willingness to participate in the pilot [26]. However, this number has fallen drastically after details about the requirements that PHC entities had to meet in order to participate in the pilot were published. For example, participating entities were required to have between 2500 and 10,000 patients on their active patient list; provide electronic registration of services and an electronic calendar of consultations; as well as ensure access (formally documented) to specialists in diabetology, endocrinology, cardiology, neurology, pulmonology and orthopedics, and to rehabilitation. These requirements were prohibitive to many, especially smaller PHC entities.

Some of these requirements, e.g. regarding the number of patients on the list, were subsequently relaxed to allow a larger number of PHC entities to apply [32]. Ultimately, only 42 mostly medium-sized PHC entities entered the pilot [33] (Fig. 2).

A range of financial and non-financial measures have been introduced to support the implementation of the pilot. The financial measures include: a special budget for providing coordinated care for chronic patients, including diagnostic tests and specialist consultations; an activity-based budget for providing disease

prevention and health promotion services; incentive payments for encouraging participation in the check-ups in the catchment population and for issuing e-prescriptions and setting up patient e-accounts; and a dedicated budget to pay the coordinators [31,34,35]. Quality will also be rewarded: PHC entities with accreditation certificates will receive higher capitation payments. In addition, the NHF has introduced a number of health promotion activities and products to increase public awareness about the importance of prophylaxis, such as leaflets, dedicated campaigns and portals (e.g. diety.nfz.gov.pl) [35]. Finally, it is worth mentioning that PHC entities participating in the pilot can benefit from a technological grant, which covers the costs of adapting their IT systems to the requirements of the pilot [36].

Soon after the implementation of the pilot started, it was recognized that small PHC units, especially rural ones, with poor infrastructure and poor links to specialist services had difficulties meeting the requirements of the pilot and did not qualify (or even apply) [37]. Since the majority of PHC entities in Poland are small, this was seen as a major drawback. In response, in early 2019, the Polish Integrated Care Foundation, the Zielonogórskie Agreement Federation, the College of Family Physicians and the Polish Society of Family Medicine developed an adaptation of the PHC PLUS model, called 'PHC OK', which is more suited to the realities of smaller PHC units and which will be implanted in parallel to PHC PLUS [38,39]. One of the key differences is that PHC OK covers patients diagnosed



**Fig. 2.** PHC entities participating in the PHC PLUS pilot and their characteristics, 31<sup>st</sup> January 2019.

Sources: Authors based on [31,33].

with only five most common chronic conditions compared to 11 conditions covered under PHC PLUS.

It was further acknowledged that severe shortages of health professionals working in PHC, particularly in rural areas, constitute a major threat to the implementation of the pilot. In response to this, in August 2019, the president of the NHF introduced certain measures aimed at attracting young physicians to PHC: physicians who have passed the State Medical Examination have been permitted to practice in PHC units without having completed or even commenced their specialization and physicians undertaking employment in rural areas have been granted a monthly lump sum of PLN 5000 in addition to their regular pay [34,40].

The NHF monitors implementation of the pilot by collecting selected statistics, including on health professionals involved in the pilot (type, number), patients (sex, age, total number, number of patients with chronic conditions(s), number of patients participating in DMPs by type of condition, number of patients receiving physiotherapy); provision of services (number of provided check-ups, including extended check-ups and types of provided diagnostic tests, number of educational visits, number of specialist consultations). Other information, such as who performs the function of care 'coordinator' within the pilot is not currently known and will only be investigated in future surveys. Quality of care, including patient satisfaction, will also be evaluated in future surveys, with an overall assessment of the pilot (with the involvement of the World Bank) planned for mid-2021. The results of this assessment will inform plans for the national rollout [41].

In terms of the results so far, by the end of May 2020, about 35,000 people out of the 176,000 who were eligible (out of a total population of about 280,000 people covered by the PHC entities participating in the pilot), received a check-up, which is close to 90 % of the target number set in the contracts by the NHF [30]. This number is satisfactory given the time remaining to the end of the pilot, even if its implementation has been largely halted due to the outbreak of the novel coronavirus in early 2020 [42]. About 44 % of people who underwent a check-up were diagnosed with a chronic condition. A total of about 29,000 patients were covered by a DMP [43].

In 2020, the implementation of the model was indirectly supported by the NHF making available additional funding for 'informatization' of PHC practices. This financing can be used for purchasing IT devices and software to support implementation of electronic medical records and for processing and storage of such documentation [44].

### 3. Discussion

Illness prevention and health promotion have so far been largely neglected within PHC in Poland, which has been highlighted in numerous official reports. The new model of care piloted since mid-2018 is expected to gradually reorient health care provision from specialist care to PHC and put much more emphasis on disease prevention and health promotion services as an integral part of PHC services. To that end, the model introduced a complex assessment of the patient at the PHC level and shifts provision of certain diagnostic tests and specialist services and management of certain chronic conditions to PHC, including, through extending the competences of both PHC doctors and nurses. This is supported by a range of financial and non-financial incentives.

Within two years, about 29,000 patients were covered by DMPs within PHC. This is regarded as a positive outcome, as the same patients could have otherwise been treated within the more expensive specialist ambulatory care [45]. Initial skepticism about healthy patients being reluctant to attend the check-ups and various visits appears to not have materialized [46]. However, taking medical histories and filling out extensive check-up forms does require a lot of time and has been seen as a burden that is sometimes superfluous and there have been calls to downscale it [47].

Going forward, the assessment of the pilot should go beyond the basic statistics above and carefully evaluate health benefits of the periodic check-ups, which funnel initially asymptomatic people to DMPs. This should be done in the light of the extensive literature on the effectiveness of such health checks that finds little evidence on their benefits and much evidence of harm and overuse of diagnostic and therapeutic interventions [48]. Likewise, educational visits provided within the pilot are hoped to lead to positive behavioral changes in the population – it should be evaluated if these changes actually materialize and, if needed, adaptations should be made.

Yet, it must be underlined that the implementation of the PHC pilot and its subsequent adaptations constitute a major innovation in implementing health care reforms in Poland. It is one of the few instances where a reform is being preceded by a testing phase and because efforts are being taken to ensure that the pilot is representative and suitable to the Polish context.

### 4. Conclusions

Whether the ambitious goals of the PHC reform will be met will not be easy to assess on the basis of the PHC PLUS pilot, given that small PHC entities, which dominate PHC provision in Poland, are



severely underrepresented in the pilot, and after only two years of its implementation (the pilot is due to end in mid-2021). Further, with only 42 entities participating, it will be difficult to draw any conclusions that could be generalized on the national scale.

Yet, countries such as the USA, UK, Canada, New Zealand, Australia, France and China, where similar models of care are in place, have expressed interest (probably partly thanks to the involvement of the World Bank) in studying certain aspects the Polish pilot, such as its effects on improving coordination between health care providers and on disease prevention [49]. Across the OECD countries, a number of promising, mostly local or small scale, innovations in PHC are currently taking place, of which the most promising appear to be the creation of new configurations of care, with multiple professionals, supported by IT, working in teams to enable seamless coordination of care and pro-actively engaging in preventive care [50]. The Polish experience with the PHC PLUS pilot can thus also provide some lessons for these countries.

More broadly, learning about the Polish experience can be of interest to other countries who seek to strengthen the role of PHC. Interest in strengthening PHC is shared among countries and is in line with the increased recognition of the importance of PHC in Europe and globally [51,52]. This importance was first underlined in the Declaration of Alma-Ata from 1978 and later revitalized in Astana in 2018 [53], which repositioned PHC as the most cost effective, inclusive means of delivering health services to achieve sustainable development goals (SDGs). Most recently, the importance of strong PHC came to the fore in the global response to the COVID-19 pandemic, where PHC took up much of the provision of essential services to non-COVID-19 patients [54].

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## Declaration of Competing Interest

The authors report no declarations of interest

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